ABSTRACT OF THE DISCLOSURE

A method and apparatus for the rapid cooling of screen masks used in the fabrication of semiconductor components is provided. The method and apparatus use a specially designed cooling plate which is contacted with a mask frame holding the screening mask. After a heated cleaning step which cleans the mask frame and screening mask of metal paste used in the screening operation, the cooling plate having one or more concave lower surfaces contacts the upper surfaces of the mask frame and bends the mask frame in the shape of the concave surfaces. This ensures intimate contact between the cooling plate and mask frame and enhances the thermal efficiency of the cooling step.